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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,518

06/17/2005

Grant Berent Jacobsen

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11/28/2006

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EXAMINER

LEE, RIP A

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,518	<b>Applicant(s)</b> JACOBSEN ET AL.	
	<b>Examiner</b> Rip A. Lee	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-10,12-24 and 26-29 is/are rejected.
- 7) ☒ Claim(s) 5, 11, 12, 14, 25, 26, and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This office action follows a response filed on September 14, 2006. Claim 1 was amended, claims 3 and 4 were canceled, and new claims 16-29 were added. Claims 1, 2 and 5-29 are pending.

#### *Claim Objections*

1. Claim 5 is objected to because of the following informalities: Please make the following corrections: (i) on line 5, replace “cyano, and” with “cyano, or” (ii) on line 9, delete “in a” which appears between “neutral” and “ $\eta^4$ ” and (iii) on line 16, replace “and combinations” with “or combinations.”
2. Claim 12 is objected to because of the following informalities: On line 3 of the claim, replace “propylene and” with “propylene or.”
3. Claim 14 is objected to because of the following informalities: Insert “selected from” between “are” and “1-butene” and replace “and 1-octene” with “or 1-octene.”
4. Claim 20 is objected to because of the following informalities: Please make the following corrections on page 7: (i) on line 3, replace “cyano, and” with “cyano, or” (ii) on line 7, delete “in a” which appears between “neutral” and “ $\eta^4$ ” and (iii) on line 14, replace “and combinations” with “or combinations.”
5. Claim 26 is objected to because of the following informalities: On line 2, replace “propylene and” with “propylene or.”
6. Claim 28 is objected to because of the following informalities: Insert “selected from” between “are” and “1-butene” and replace “and 1-octene” with “or 1-octene.”

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 12-15 and 26-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 12, 13, 26, and 27 are indefinite because the claims does not set forth any steps involved in the process, and therefore, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Dependent claims 14, 15, 28 and 29 are subsumed under the rejection. Replacing "said process performed under polymerizing conditions" with "comprising polymerizing said olefins" or some similar phrase is suggested.

***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1, 2, 5-10, 12-24 and 26-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-34 of copending Application No. 10/539,557. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to essentially the same invention. The present invention is drawn to a supported catalyst comprising metallocene, non-aluminoxane activator, and support material pretreated with iron or copper sulfate (specifically, claims 10 and 24). The invention in the copending application is drawn to a supported catalyst comprising metallocene, organometallic compound, and support pretreated with ferrous sulphate or cupric sulfate (specifically, claims 13 and 29).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### *Response to Arguments*

11. The rejections of claims over McDaniel *et al.* (U.S. 6,107,230 and U.S. 6,300,271), set forth in the previous office action have been overcome by amendment.

12. Claims 11 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The general subject matter of the instant claims is free of the prior art. The present invention is drawn to a supported catalyst system comprising a group 6 metallocene, non-aluminoxane activator, and a support pretreated with SO<sub>4</sub> containing compound.

To date, the closest prior art is:

McDaniel *et al.* (U.S. 6,107,230 and U.S. 6,300,271), cited previously, and McDaniel *et al.* (U.S. 6,831,141) disclose a different class of catalyst containing sulfated alumina support, trialkylaluminum co-catalyst, and group 4 metallocenes. There is no disclosure of use of group 6 metallocenes or ionic activators as recited in the instant claims.

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Gao *et al.* (U.S. 6,734,266) discloses catalysts containing group 4 standard metallocene or phosphimine complexes and aluminoxane co-activator supported on sulfated alumina or sulfated silica. There is no disclosure of use of group 6 metallocenes or non-aluminoxane/ionic activators as recited in the instant claims.

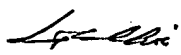
Marks *et al.* (U.S. 6,235,918) and Ahn *et al.* (Organometallics, 2002) discloses catalysts prepared from group 4 metallocenes deposited on sulfated zirconia. Here, the support is sufficiently electrophilic to generate an active site. These catalysts are used for olefin/arene hydrogenation reactions, as well as for polymerization of ethylene. There is no disclosure of use of group 6 metallocenes or non-aluminoxane/ionic activators as recited in the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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November 15, 2006

  
LING-SUI CHOI  
PRIMARY EXAMINER